

**AN EPIDEMIOLOGY PUBLICATION OF THE OREGON DEPARTMENT OF HUMAN SERVICES**

**SCREENING THROUGH THE LIFE CYCLE**

**S**INCE 1989, when it published the first Guide to Clinical Preventive Services, the United States Preventive Services Task Force (USPSTF)<sup>1</sup> has reviewed the literature and issued evidence-based recommendations about screening for diseases and related risk factors; counseling; immunizations; and use of preventive medications. While we don't have space here to discuss every nuance of the screening options available to the contemporary clinician, in this *CD Summary* we review guide-

lines for screenings related to chronic diseases, and, where possible, look at how we're doing here in Oregon.

USPSTF grades screening services using five classifications (A, B, C, D, I) reflecting the strength of evidence and magnitude of net benefit (benefits minus harms). An "A" rating indicates a strong recommendation for the screening activity, and means that good evidence exists that the screening improves health outcomes and that the benefits substantially outweigh harms. A "B" rating indicates

that "at least fair evidence" for benefit and that the benefits outweigh harms. A "C" rating means that USPSTF makes no recommendation for or against routine provision of that screening. A "D" rating means that the Task Force recommends against routinely offering the screening because evidence indicates that it is ineffective or that harms outweigh benefits. Finally, the Task Force assigns an "I" rating when it concludes that there is insufficient evidence to recommend for or against routine provi-

Condition Screened for	Population to Be Screened	USPSTF Rating or Other Basis for Recommendation
<b>Infants and Children</b>		
Congenital hypothyroidism	All neonates	Recommended
Phenylketonuria	All neonates	Recommended
Hemoglobinopathy (sickle cell)	All neonates	Recommended
Iron deficiency anemia	At-risk infants (e.g., those from low-income families)	Recommended
Elevated blood lead	At-risk infants. For a questionnaire to identify those at risk, go to: <a href="http://www.dhs.state.or.us/publichealth/lead/provider.cfm">http://www.dhs.state.or.us/publichealth/lead/provider.cfm</a>	Recommended
Amblyopia, strabismus, and defects in visual acuity	Children less than age 5	B
<b>Adults</b>		
Hypertension	All adults	A
Lipid disorders	All men age ≥35 All women age ≥45	A
Tobacco use	All adults	A
Alcohol misuse	All adults	B
Obesity (periodic calculation of body mass index)	All adults	B
Depression	All adults seen in clinical practices that have systems in place to assure accurate diagnosis, effective treatment, and follow-up.	B
Breast cancer (mammography +/- clinical breast exam, q. 1-2 years)	All women age ≥40	B
Cervical cancer (Pap test, at least q. 3 years)	All women with a cervix within 3 years of onset of sexual activity or by age 21 (whichever comes first). Screening is recommended until age 65; may also be stopped for a person with a hysterectomy for a benign condition.	A
<b>Adults over 50</b>		
Colorectal cancer (USPTF does not specify method) Options include annual home fecal occult blood testing with periodic sigmoidoscopy, or Annual FOBT with periodic sigmoidoscopy or colonoscopy.	All adults over 50	A American Cancer Society American Academy of Family Practice
Hearing loss (interval history)	All older adults	Recommended
Osteoporosis (bone mineral density evaluation)	All women age ≥65 Women age ≥60 who are less than 70 kg or have never taken estrogen replacement	B
Abdominal aortic aneurysm (one-time ultrasound)	Men age 65-75 who have ever smoked	B
<b>A few surprises — services that are not recommended</b>		
<b>Screening Service</b>		<b>USPSTF Rating</b>
Routine screening for prostate cancer in older men		I
Routine screening for skin cancer with total body exam		I
Routine screening for glaucoma		I
Routine screening for testicular cancer in adolescents and adults		D
Routine screening for coronary artery disease (with resting ECG, ETT) in low-risk adults		D



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sion of the screening service evaluated. Certain screening services, which were evaluated before the rating system was adopted and are well-enough accepted that they have not been revised, are rated as “recommended”. The table (*verso*) provides a handy summary of recommended screening services (and a few that are not recommended).

#### **SCREENING INFANTS AND CHILDREN**

The Oregon State Public Health Lab currently handles screening for 34 different conditions that may be present during the neonatal period.<sup>2</sup> Happily, these can all be done with a few drops of blood from a heel stick. Three of these have a “recommended” rating from USPSTF: testing for sickle cell disease, phenylketonuria, and congenital hypothyroidism. In Oregon, more than 46,000 neonates were screened for these conditions in 2004, resulting in detection of 25 cases of congenital hypothyroidism, 8 cases of sickle cell hemoglobinopathy, 3 cases of phenylketonuria, and 22 cases of other metabolic disorders.

The USPSTF recommends testing for blood lead level at least once (typically at 12 months of age) for children at increased risk of lead exposure. Here in Oregon, the prevalence of lead poisoning in children under age 6 is estimated to be 1–2%; this low prevalence argues against universal screening. To help target screening efforts, a task force of public health personnel, health care providers, and community groups has developed a questionnaire through which children at high risk can be iden-

tified (available at: <http://www.dhs.state.or.us/publichealth/lead/provider.cfm>).

#### **SCREENING ADULTS**

While the number of recommended screening services for chronic diseases drops off sharply during adolescence and early adulthood, recommended screenings increase during middle age. For adults <50 years, many of the screenings are intended to detect risk factors for development of chronic disease. Screening for tobacco use and providing cessation interventions for users garners an “A” rating from the USPSTF. Clinicians are making some progress in this area: 64% of Oregon adults surveyed report being asked at their last health visit if they smoked, 80% of smokers report that a health care provider has advised them to quit in the past, and 58% were advised to quit at their last visit.

Other screenings for risk factors include: screening for hypertension, lipid disorders, and obesity. While we don’t track screening frequency for hypertension or obesity, 86% of men  $\geq 35$  years old and 93% of women  $\geq 45$  years report having had their cholesterol checked at some point in the past.

Several recommended screening services are intended to catch cancer at an early stage, or even identify curable pre-cancerous lesions. Routine cervical cancer screening is a shining example. While cervical cancer remains the second leading cause of cancer among women, here in Oregon, largely due to the effects of pap screening, the cervical cancer incidence rate is only 7/100,000 and mortality 2.4/100,000. Of Oregon women age  $\geq 18$ , 96% report having ever had a pap test, and 83% of these say their most recent pap

was in the last 3 years. Screening for breast cancer among women  $\geq 40$  years gets a “B” rating from USPSTF. They recommend mammography with or without a clinical breast exam, and suggest a screening interval of 1–2 years. Here in Oregon, 90% of women age  $\geq 40$  years report having had a mammogram at some point. Of these, 84% report that they had one in the past 2 years.

#### **SCREENING AFTER 50**

Once a patient reaches age 50, the focus of screening turns sharply toward detection of chronic diseases. Colorectal cancer screening after age 50 gets an “A” rating, although the USPSTF doesn’t specify a particular method. The American Cancer Society recommends annual home fecal occult blood testing (FOBT) with sigmoidoscopy, while the American Academy of Family Practice suggests annual FOBT in combination with periodic sigmoidoscopy or colonoscopy. (See *CD Summary*, Jan. 27, 2004 for further details.) Here in Oregon, 52% of those age  $\geq 50$  report having a sigmoidoscopy or colonoscopy at some point in their lives; 38% said they’d had one in the preceding 5 years; and 21% reported using home fecal occult blood testing in the prior year.

For more information, visit the US Preventive Services Task Force web site at: <http://www.ahcpr.gov/clinic/uspstfix.htm>

#### **REFERENCES**

1. At: <http://www.ahcpr.gov/clinic/uspstfix.htm>
2. At: <http://www.oregon.gov/DHS/ph/phi/>